Preventing Respiratory Illnesses Protecting Patients and Staff

Infection Control and Surveillance Standards for Febrile Respiratory Illness (FRI) in Non-Outbreak Conditions in Acute Care Hospitals

December 2003

Ontario

104-03087/

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Introduction

These standards represent a comprehensive, evidence based approach to droplet-spread respiratory illnesses for acute care hospitals They:

- reinforce the role of the general public, healthcare professionals and organizations in preventing the spread of respiratory illnesses
- address both public health and occupational health and safety issues, and highlight the role that Joint Health and Safety Committees will play in addressing infection control and related safety issues for healthcare workers
- establish standards for acute care hospitals in the areas of surveillance (including screening and reporting) and infection control practices (including education)
- provide principles / guidelines for effective infection control in non-outbreak situations, which can be adapted for use in other healthcare facilities, community care and physicians' offices.

Context

As part of a commitment to move to common national standards and practices, the task force supports the Health Canada recommendations set out in the document: *Infection Control Precautions for Respiratory Infections Transmitted by Large Droplet / Contact: Infection Control Guidance in a Non-Outbreak Setting, When an Individual Presents With a Respiratory Infection.* (Soon to be released – monitor Health Canada's Web site www.hc.sc.gc.com)

Ontario will use the Health Canada guidelines as the model and minimum standard for infection control in acute care hospitals. Variations from these guidelines are based on the province's history and experience in providing an enhanced response to outbreaks of respiratory illnesses.

Health Canada also plans to develop algorithms for infection control in different settings where healthcare is delivered. These will be reviewed and adopted for use in Ontario, if appropriate.

Relationship with Other Infection Control Guidelines and Standards

Standards for the control of respiratory infection do not replace infection control guidelines and standards already in place for other illnesses. They should be integrated with other guidelines, as part of an organization-wide effort to maintain acceptable standards for infection control practices.

With regard to infection control in non-outbreak conditions, it is the MOHLTC's role to establish provincial standards and expectations for infection control, based on federal recommendations (as opposed to provincial directives for infection control that are appropriate in outbreak conditions). It is then the role of service providers to develop the policies, protocols and implementation plans required to achieve the standards in their setting.

Ontario's standards are for febrile respiratory illness (FRI), while Health Canada's guidelines are for severe respiratory infection (SRI). FRI and SRI are two different points along the continuum of respiratory illness, with SRI being a more severe or advanced FRI (see definitions).

Definitions[1]

Aerosolization: The process of creating very small droplets (droplet nuclei) of moisture that may carry microorganisms. The aerosolized droplets can be light enough to remain suspended in the air for short periods of time and facilitate inhalation of the microorganisms.

Airborne transmission: Occurs by dissemination of either airborne droplet nuclei or evaporated droplets (sub micron particles) containing microorganisms that remain suspended in the air for long periods of time. These microorganisms can be widely dispersed by air currents and may be inhaled by persons even when standing a distance away from the source patient.

ARDS: Adult Respiratory Distress Syndrome is the rapid onset of progressive malfunction of the lungs usually associated with the malfunction of other organs due to the inability to take up oxygen. The condition is associated with extensive lung inflammation and small blood vessel injury in all affected organs.

Cluster: A grouping of cases of a disease within a specific time frame and geographic location suggesting a possible association between the cases with respect to transmission.

Droplet Precautions: (see also Routine Practices) The use of surgical masks and eye protection or face shields on the part of healthcare worker when encountering patients who have respiratory infections, especially if associated with coughing, sneezing, felt to be transmissible principally by large respiratory droplets particularly when within 1 metre of such a patient. Also used where appropriate to protect the mucous membranes of the eyes, nose and mouth of the healthcare worker during procedures and patient care activities likely to generate splashes or sprays of blood, body fluids, secretions or excretions (e.g., air way suctioning).

Febrile Respiratory Illness (FRI): During non-outbreak conditions this includes a fever of greater than 38°C and new or worsening cough or shortness of breath to increase the specificity of this designation. During outbreak conditions, to maximize the sensitivity to potential SARS infection, this includes a fever of greater than 38°C **or** new or worsening cough or shortness of breath. The context in which FRI is determined must take the outbreak vs. non-outbreak conditions into account.

Non-Outbreak: Refers to the condition when there is no reported cases of SARS anywhere in the world.

Nosocomial infection: A nosocomial or hospital acquired infection is one for which there is no evidence that the infection was present or incubating at the time the patient was admitted to the hospital facility.

Outbreak: For the purposes of SARS activity, an *outbreak* is defined as local transmission of SARS. This represents Level IV of the Regional Response Levels Outbreak definition which describes seven levels of outbreak. (See Appendix 1 for the Levels of Outbreak). The local Medical Officer of Health is responsible for declaring a SARS outbreak. An outbreak may be setting-specific (e.g., a hospital with transmission) or health unit wide (e.g. transmission in more than one setting or significant community exposure). In declaring an outbreak the local Medical Officer of Health takes into account global and neighbouring jurisdiction conditions and the potential impact of those conditions.

Reference: Regional SARS Response Levels and Paradigm, Appendix 1

Respiratory Symptoms: New or worse cough (onset within 7 days) OR new or worse shortness of breath (worse than what is normal for the patient).

Routine Practices (See also "Droplet precautions"): The Health Canada term to describe the system of infection prevention recommended in Canada to prevent transmission of infections in healthcare settings.

[1]Source: Directive to All Ontario Acute Care Facilities Under Outbreak Conditions. ACO-03-05, October 22, 2003. Appendix 1, Glossary.

These practices describe prevention strategies to be used with all patients during all patient care, and include:

- Hand washing or cleansing with an alcohol-based sanitizer before and after any direct contact with a patient.
- The use of additional barrier precautions to prevent health care worker contact with a patient's blood and body fluids, non intact skin or mucous membranes.
- Gloves are to be worn when there is a risk of body fluid contact with hands; gloves should be used as an additional measure, not as a substitute for hand washing.
- Gowns are to be worn if contamination of uniform or clothing is anticipated.
- The wearing of masks and eye protection or face shields where appropriate to protect the mucous membranes of the eyes, nose and mouth during procedures and patient care activities likely to generate splashes or sprays of blood, body fluids, secretions or excretions.

The full description of routine practices to prevent transmission of nosocomial pathogens can be found on the Health Canada website (http://www.hc-sc.gc.ca/pphb-dgspsp/dpg_e.html#infection).

Severe Respiratory Illness (SRI): Temperature greater than 38°C and cough or difficulty breathing not otherwise explained, admitted to hospital, chest x-ray consistent with severe pneumonia or ARDS and no alternative diagnosis after 72 hours; **and** living in or traveling to a potential zone of SARS re-emergence within the past 30 days **or** being in close contact with a symptomatic person who has been in a potential zone of SARS re-emergence within the past 30 days.

Work for a health care organization: The intent of this is to capture all those who may be in contact with patients/residents or clients in their work. This would include those who work in doctors' offices, laboratories, community care access centres, service provider agencies, long-term care facilities, physiotherapy clinics, community health centres, and public health unit.

Standards for Comprehensive Infection Control Programs for Respiratory Illnesses in Adult Acute Care Hospitals

All adult acute care hospitals should adopt a surveillance / infection control program for respiratory illnesses.

While paediatric settings (hospitals, neonatal units and paediatric wards) are not required to follow these standards due to the existing standards of practice around avoidance and containment of respiratory illnesses, they are encouraged to review these standards against their current practices.

Surveillance

A surveillance program is designed to help the hospital's infection control and occupational health services and the public health unit take appropriate steps to recognize and contain the spread of febrile respiratory illness (FRI), and address any breakdown in infection control practices or workplace health and safety measures. Surveillance includes screening and reporting.

1. Screening

Screening is designed to help healthcare professionals and organizations identify individuals with potential FRI who may pose a risk to patients and / or healthcare providers. The goals are to:

- identify all patients admitted to acute care hospitals who have: fever >38 **and** cough or difficulty breathing (FRI); chest radiograph changes suggestive of pneumonia that is not otherwise explained (SRI); and have been to or had contact with a sick person from a high risk area (SRI). The World Health Organization (WHO) defines current high risk areas as China, Taiwan province and Hong Kong Special Administrative Region (SAR) of the People's Republic of China
- minimize the contact with and / or droplet spread to other patients or to healthcare workers
- identify patients who work for a healthcare organization, in order to monitor for potential clusters of cases within a particular work environment (see section on reporting).

1.1 All patients presenting at the emergency department and / or admitted to hospitals are to be assessed for indicators of FRI/SRI using a tiered approach to the screening questions.

1.2 Staff completing the screening will initiate appropriate infection control precautions. Acute care hospitals should follow Health Canada infection control guidelines for patient reception areas (e.g., having alcohol hand washing liquid and surgical masks at the entrance to the emergency department and hospital, requiring coughing patients to wear masks, having patients with suspected FRI wait in a separate area away from other patients until the etiology of the infection is known, maintaining a metre distance from a coughing patient or wearing appropriate protection).

Please see Health Canada – Routine Practices and Additional Precautions for Preventing the Transmission of Infection in Healthcare, website: http://www.hc-sc.gc.ca/pphb-dgspsp/publicat/ccdr-rmtc/99pdf/cdr25s4e.pdf

1.3 The following screening questions/approach is to be followed.

Screening Questions to be asked of Patients as Part of an Active Screening Process

i. **Do you have new / worse cough or shortness of breath?**
   - if 'no', stop here (no further questions)
   - if 'yes', continue with next question:

ii. **Are you feeling feverish, have you had shakes or chills in the last 24 hours?**
   - if 'no', take temperature; if >38 C, continue with next questions, otherwise stop (no further questions)
   - if yes, take temperature and continue with next questions:

Initiate droplet precautions if "yes" to i and ii.

iii. **Is any of the following true?**
   - Have you lived in, traveled to or visited China, Taiwan, Hong Kong within the last 30 days?
   - Have you had contact in the last 30 days with a sick person who has traveled to these same areas?

Patients with FRI (fever and respiratory symptoms) and 'yes' to any of these exposures / conditions are potentially severe respiratory illness (SRI).

Initiate droplet precautions and notify infection control if "yes" to i, ii and iii.
Infection control to notify public health

Additional questions to be asked of all admitted patients:

iv. **Do you work for a healthcare agency or organization?**

v. **Are you a resident of a long-term care institution?**

Initiate droplet precautions and notify infection control if "yes" to i, ii and either iv or v.
Infection control to notify public health

Note: The proposed screening questions differ from those suggested by Health Canada in one instance: the task force recommends that Ontario use a **30 day** window for travel to an infected area or contact with a sick person from an infected area (as opposed to the 14 days suggested by Health Canada), to avoid confusion about the incubation period and to provide extra vigilance for Ontario.

1.4 The results of the screening questions should be documented in the patient's health record and communicated to areas of the hospital where the patient is treated or admitted.

2. Reporting

Reporting is designed to ensure that information that can be used to identify or follow potential cases of FRI is communicated and shared appropriately, while still safeguarding people's right to confidentiality. The goals are to:

- identify and report all patients who screen positive for FRI or SRI
- ensure appropriate infection control practices are used for patients who are admitted to hospital with FRI or who develop FRI while in hospital
- involve occupational health and safety in a timely way to ensure workers are protected
- identify and manage clusters of cases quickly and effectively
- prevent / contain the spread of FRI within the acute care hospital setting
- give public health the information it requires to prevent / contain / manage community spread.

Effective internal and external communication is essential to ensure a common understanding of risks, identify possible clusters or outbreaks in a timely way, and take appropriate action.

Internal Reporting: to Infection Control

2.1 Infection control staff should be notified, using established procedures, of:

- ☐ ***all patients admitted to hospital who meet the Health Canada definition for SRI***
- ☐ ***patients admitted from the community to the ICU with ARDS secondary to severe pneumonia who have been in ICU for 72 hours with no alternative diagnosis***
- ☐ ***clusters of inpatients with FRI***
- ☐ ***patients with FRI who were admitted to hospital from a long-term care facility***
- ☐ ***patients with FRI admitted to hospital who work for a healthcare organization.***

2.2 Hospital staff must be alert to clusters of FRI in patients in hospital. Facilities must develop mechanisms to enable staff to identify and report these clusters to the hospital's infection control service.

2.3 Occupational health should notify infection control staff of clusters of employees / contract staff who are absent from work for 72 hours with FRI. The information should be reported non-nominally to protect the employees' right to confidentiality.

Criteria for FRI

- fever >38° C **and** new or worsening cough or shortness of breath not otherwise explained.

Criteria for SRI

- fever >38° C **and** new or worsening cough or shortness of breath not otherwise explained
- admitted to hospital
- abnormal chest radiograph consistent with severe pneumonia or ARDS
- no alternative diagnosis after 72 hours

and

- living in or traveling to a potential zone of re-emergence within the past 30 days

or

- being in close contact with a symptomatic person who has been in a potential zone of re-emergence within the past 30 days

Internal Reporting: to Occupational Health

Infectious disease is an occupational health and safety issue, as well as a public health issue. It is critical to develop collaborative relationships among occupational health, infection control and public health for preventing disease spread in the workplace, and ensure roles and responsibilities are understood.

The primary responsibility for monitoring respiratory infections in an adult acute care hospital rests with the infection control service, while the occupational health service plays a significant supportive role. The local public health unit only needs to become involved when there is an outbreak in the facility or when employees have a reportable disease – although the infection control and occupational health services can consult with the local public health unit as required.

Some of the functions and powers of the Joint Health and Safety Committee at a workplace are described in Part 2, section 9 of the *Occupational Health and Safety Act*. This committee's consultative role in establishing measures and procedures dealing with infection control at healthcare and residential facilities, and training of the same, is set out in sections 8 and section 9 of Regulation 67/93 (the Regulation for Healthcare and Residential Facilities). (See web site: http://www.e-laws.gov.on.ca/DBLaws/Statutes/English/90o01_e.htm)

2.4 Collaboration between occupational health and safety and infection control should be strengthened to enhance the hospital's ability to monitor for outbreaks and identify / investigate clusters.

2.5 All Occupational Health Services must follow the relevant communicable disease protocols jointly developed by the Ontario Hospital Association (OHA), the Ontario Medical Association (OMA), and the MOHLTC.

2.6 A hospital's Occupational Health Service should:

- ☐ ***be notified by the manager / department / unit head of all employees / contract workers who stay home due to illness***
- ☐ ***contact all employees / contract workers who stay home due to illness after 72 hours and review the symptoms for identification of FRI. This review should include the FRI screening questions for cough or shortness of breath, fever, and exposures as well as an evaluation of workplace exposures. The notes from the review will be kept confidential in the occupational health record.***
- ☐ ***notify infection control about clusters of employees / contract workers who are home ill after 72 hours due to FRI. This reporting should be done in a non-nominal manner to protect the workers' right to confidentiality.***

2.7 If an occupationally acquired infection is probable or confirmed in a healthcare worker, it should be reported to the Joint Health and Safety Committee.

2.8 A hospital's Joint Health and Safety Committee should work with the Infection Control Service as the Service develops, implements and maintains appropriate infection control standards that protect workers.

External Reporting: to Other Healthcare Organizations

2.9 When someone who works for another healthcare organization is admitted to a hospital with FRI, that organization should be notified through the Occupational Health Service.

Each hospital should establish a protocol for inter-agency reporting. Any process established for notifying another health organization's occupational health service must comply with section 63(2) of the *Occupational Health and Safety Act* and with section 39(1) of the *Health Protection and Promotion Act* (HPPA), which restrict an employer's access to a worker's health records.

External Reporting: to Public Health

2.10 The hospital's infection control service should notify public health, using established procedures, seven days a week during office hours of:

- ☐ ***patients admitted to hospital who meet the Health Canada criteria for SRI, with the exception of the "72 hours with no diagnosis", on admission***
- ☐ ***healthcare workers admitted to hospital with FRI, and an abnormal chest radiograph with no diagnosis after 72 hours***
- ☐ ***patients admitted to hospital with FRI, including an abnormal chest radiograph, who come from a long-term care or other healthcare facility on admission***
- ☐ ***previously healthy patients admitted directly to ICU from the community, with ARDS secondary to severe pneumonia, with no diagnosis after 72 hours***
- ☐ ***clusters of patients or healthcare workers with FRI .***

2.11 Public health shall investigate all reports for clusters, possible etiology, and risk factors. This does not replace the hospital's obligation to investigate any hospital-acquired infection.

2.12 Public health will provide regular aggregate reports to hospitals' infection control service of the notifications and outcomes, as well as reports of any outbreaks in facilities and in the community.

External Reporting: to the Ministry of Labour

2.13 When the Occupational Health Service is informed of possible cases of FRI in staff, it will then notify the Ministry of Labour in accordance with existing occupational health and safety legislation.

2.14 When the Joint Health and Safety Committee is informed of a staff person with a probable or confirmed occupational infection, the employer will notify the Ministry of Labour in accordance with existing occupational health and safety legislation.

Sections 51 and 52 of the *Occupational Health and Safety Act* set out when reports relating to critical injuries occupational illnesses must be made to the Ministry of Labour. The information that must be included in such a report is set out in section 5 of Regulation 67/93 (the Regulation for Healthcare and Residential Facilities).

Infection Control

Infection control includes a constellation of practices and precautions used to prevent disease transmission, and includes the knowledge and skills require to choose and maintain appropriate precautions.

3. Infection Control Practices

Infection control practices are intended to protect patients, healthcare providers and the public from exposure to infectious diseases. In environments that treat people with infectious diseases, there is no such thing as "total protection" or "zero risk" for patients, visitors or healthcare workers, but there are steps that hospitals can take to significantly reduce the risk. The goals of the proposed standards for infection control practices are to:

- ensure all hospitals are working to the same high standard
- ensure all hospitals are implementing evidence-based infection control practices
- encourage hospitals to continually work to reduce the risk to healthcare workers and patients, including appropriate immunizations
- provide guidance to other healthcare settings on appropriate infection control standards and practices.

3.1 Acute care hospitals should ensure that all the infection control processes and procedures implemented to prevent the spread of FRI comply with existing occupational health and safety legislation.

These are set out in the *Occupational Health and Safety Act* and regulations, including 67/93 (Regulation for Healthcare and Residential Facilities).

3.2 When there is disagreement about appropriate infection control practices among those caring for a patient with FRI, staff should follow the practice of using the higher level of precautions until consensus can be reached.

Each hospital should develop a process for resolving conflicts about the need for precautions.

3.3 The appropriate level of precaution should be driven by the procedure being undertaken and the patient's presenting symptoms. Infection control programs should reinforce the importance of droplet precautions, including hand washing, gloving, eye protection, surgical masks and, in certain situations, gowning.

Based on the knowledge now available about the spread of respiratory illnesses, the task force supports the Health Canada recommendations that droplet precautions are the appropriate response during significant patient contact in non-outbreak conditions. This means that surgical masks and eye protection will provide an appropriate barrier. (When dealing with an airborne illness, see Health Canada recommendations for airborne disease spread. Please see Health Canada – Routine Practices , Section 1.2.)

3.4 Hospital staff should be given time and education to become comfortable with any new standard that represents a different level of precaution from that currently in use in their work setting.

Because some infection control standards represent a change from practices used during outbreak conditions (e.g., surgical masks instead of N95 masks), it may take time for staff to understand the basis for the change, become comfortable with the new surveillance methods and infection control precautions, and adopt new practices (see section on education). Staff should have the option of continuing to use the N95 masks, but they should be discouraged from using other levels of precautions that are not supported by science – particularly those that, if misused, increase the risk of exposure to FRI.

3.5 All acute care hospitals should have at least one negative pressure room that meets Health Canada standards

(Please see Health Canada – Guidelines for Preventing the Transmission of Tuberculosis in Canadian Facilities, website: *http://www.hc-sc.gc.ca/pphb-dgspsp/publicat/ccdr-rmtc/96vol22/22s1/22s1h_e.htm).*

The negative pressure room can be used for special procedures that create aerosols in patients with droplet-spread infections. This room may be routinely required to provide patient care for airborne infections.

3.6 All negative pressure rooms should be monitored regularly (at least monthly and upon patient admission) to ensure negative pressure is maintained.

4. Education and Communication

Education and communication programs are designed to ensure that both the public and healthcare workers understand the reason for infection control practices for FRI for protection of patients and staff and their responsibilities in preventing disease spread. The goals of education and communication programs are to:

- provide clear, accessible information
- explain the science that forms the basis for the infection control standards
- ensure healthcare providers have the support and opportunity to develop the skills required to implement infection control standards
- describe the roles and responsibilities of the public / patients, healthcare providers, the hospital, the occupational health service, the infection control service, infection control committe, public health, Joint Health and Safety Committee and the Ministry of Labour
- encourage the kind of open communication and collaboration that help prevent infectious diseases.

To support best practices, it will not be enough to hand staff copies of new directives, guidelines or standards. Hospitals will have to provide active teaching programs with significant input from infection control and occupational health services.

4.1 All acute care hospitals should develop active, formal orientation and ongoing education programs for all staff to ensure they have the knowledge, skills and confidence to maintain infection control standards for FRI.

Education programs should emphasize:

- hand hygiene (including hand washing and use of alcohol based sanitizers)
- components of Routine Practices and Transmission-based precautions such as eye protection, masks (N95 and surgical masks for staff and patients) and the appropriate use of gloves and gowns
- appropriate cleaning and\or disinfection of care equipment, supplies and surfaces or items in the care environment (for example, beds, curtains, walls, floors)
- safe application and removal of personal protective equipment
- the principles behind transmission-based precautions and cohorting of patients.

In hospitals that dealt with the SARS outbreak first hand, the education may have to include giving staff an opportunity to talk about their experience and debrief, so they can absorb what they need to know when working in non-outbreak conditions.

4.2 Acute hospitals should measure the effectiveness of their education programs and their impact on practices.

4.3 Hospitals in conjunction with public health and the MOHLTC should also educate the public, patients and individual healthcare workers about their personal responsibility in disease prevention and about the steps they can take to minimize the spread of FRI, including staying home when they are sick, covering their mouth when coughing, washing their hands frequently and, in the case of healthcare workers, reporting any symptoms of an FRI to their managers, departments, or occupational health service in accordance with workplace policies.

Implementation

5. Implementation in the Hospital Setting

Implementing effective infection control standards and surveillance in a hospital setting may require certain structural, process or organizational changes. The goal is to ensure the hospital has structures and systems to support infection control for FRI. These cannot detract from existing infection control programs.

5.1 Each hospital should develop internal policies to implement a common approach to screening and surveillance for FRI.

These policies should address the following issues:

- who completes the screening assessments
- who reviews the results
- where the information is kept: screening information in the patient's chart and surveillance information centrally
- the process for resolving conflicting opinions on the need for precautions
- any changes required to the recommended screening form to meet the hospital's needs
- how the hospital will monitor the implementation of infection control standards, and assess compliance
- how the hospital will evaluate the effectiveness / impact of education programs.

5.2 Hospitals should establish the roles and responsibilities of occupational health services, infection control services, the Infection Control Committe and the Joint Health and Safety Committee in implementing a comprehensive infection control program. At a minimum, hospitals must ensure the role played by the Infection Control Committe and the Joint Health and Safety Committee fully complies with existing legislation.

Some of the functions and powers of the Joint Health and Safety Committee are described in section 9 of the *Occupational Health and Safety Act*. The committee's consultative role respecting the establishment of measures and procedures to deal with infection control and training in same, at healthcare and residential facilities, is set out in section 8 and 9 of Regulation 67/93 (the Regulation for Healthcare and Residential Facilities)

Some of the functions and power of the infection control committe are described in the *Public Hospitals Act*, regulation 518/88.

Adapting the Standards for Use in Community Settings

The proposed standards outlined in the report are for adult acute care hospitals. However, the goals, principles, approach and standards represent the best advice for infection control in non-outbreak conditions in all settings where health services are delivered. Until specific standards are developed for community based healthcare settings, community care settings, home care agencies, clinics, and physicians' offices should be able to work from the same principles, and adapt the standards for their use. In adapting these standards, the focus must be on establishing baseline infection control standards that can be applied in these settings.

APPENDIX 1

Regional SARS Response Levels and Paradigm

SARS Response Levels

A series of SARS Response Levels has been developed to describe the appropriate responses required for each level of risk of SARS in a given geographic area. The risk assessment takes into account the provincial, national and international geographic and epidemiologic contexts. These SARS Response Levels are based on the proximity to the area(s) in the world where SARS transmission is occurring, the *likelihood* of local transmission, and the *ability to epi-link* cases.

Within this document SARS cases are those that meet current accepted SARS case definitions.

These guidelines are written to assist local public health units in determining the SARS Response Level for each jurisdiction.

The two most important factors that determine a local jurisdiction's recommended SARS Response Level are:

- the local SARS activity level (based on local communicable disease and hospital surveillance reports), and
- the SARS activity level of jurisdictions that are *related* to or *connected* to the local jurisdiction by virtue of admixing of populations and patient transfers (based on the reported SARS activity level).

Paradigm*

Following the description of the SARS Response Levels is a chart outlining the possible scenarios that could occur in a community under each Response Level. The scenarios overlay the description of Response Levels with that of the conditions of SARS Health Care Facility Categories. For example, a community at SARS Response Level 2 (no local cases but cases in other parts of the province) can only have health Care facilities that are at a SARS Health Care Facility Category 0 (no active SARS cases; no unprotected exposure or transmission). Also provided are specific instructions for acute care facilities and pre-hospital care providers at each Response Level.

*Developed by the Ontario Scientific Advisory Committee – October 2003

Response Levels

Level 0 – NO ACTIVITY
- *No detected SARS activity* anywhere in the world

Level 1 – ALERT
- No detected cases in the local jurisdiction, in Ontario, or in neighbouring / connected jurisdiction(s), but cases identified elsewhere in the world

Level 2 – ONTARIO (PROXIMAL) PRESENCE
- *No detected* cases in the local jurisdiction, but one or more case(s) reported in Ontario or a neighbouring / connected jurisdiction(s)

Level 3 – LOCAL PRESENCE
- *Case(s) detected in the local jurisdiction and no evidence of local transmission*

Level 4 – LOCAL TRANSMISSION IN DEFINED SETTINGS
- *Transmission* in the local jurisdiction, within defined healthcare, household, or community settings (e.g. hospital, clinic, classroom, workplace, funeral gathering, faith group, recreational settings), but without documented community spread

Level 5 – LIMITED COMMUNITY SPREAD
- *Limited unlinked* cases in the community; identification of cases beyond defined institutional or household settings, unrelated to travel

Level 6 – WIDESPREAD COMMUNITY SPREAD
- *Widespread unlinked* cases in the community, with multiple communities affected.

The local Medical Officer of Health (MOH) will assess the information available and determine the response level for the jurisdiction. The local MOH will advise the Public Health Branch of the Ministry of Health and Long-Term Care of any assessment of Response Level 3 or above. The Public Health Branch, as per internal protocols, will alert the provincial SARS Executive Committee (which will have the MOH of the affected public health unit as a participant) for determination of appropriate next steps for the institution, the community and the province. When more than one health unit is affected, coordination and communication of Response Levels will be the responsibility of the Public Health Branch.

Some considerations are as follows:

- An appropriate response by a local health unit may be more aggressive depending on the context of SARS activity in the local and surrounding areas. For example, a jurisdiction may judge itself to be at increased SARS risk because of *risk connections* (significant population admixing, patient transfers, commuting, travel etc.) to an area experiencing a higher level of SARS activity, and may choose a more aggressive level of response (i.e., may "upgrade" its response). The related/connected area could be another Ontario health unit jurisdiction, another province or U.S. jurisdiction, or an international destination with significant travel to the local jurisdiction.
- *When a jurisdiction is severely affected (e.g., at a Response Level 4, 5, or 6), all other jurisdictions (rather than just neighbouring / connected jurisdictions) should consider increasing their response to a level closer to that of the more severely affected jurisdiction, even if they have no known cases in their local jurisdiction (increase from Response Level 1 or 2 to a higher level).*
- A *range of risk* exists within individual regional Response Levels, and the response should be tailored to the estimated risk (e.g., the particular interventions adopted and/or the settings to which they would apply). Particularly within Response Level 4, there may be instances of minimal transmission for which the declaration of an outbreak and the related responses are not required. Examples include: a single imported case with limited transmission in the case's household, or limited well-recognized transmission in a delineated setting.

- *For the purposes of this classification scheme, an outbreak is defined as local transmission of SARS (Response Levels 4, 5, and 6), rather than as a single case or several imported cases. The local health unit region's SARS Response Committee is responsible for declaring a SARS outbreak, and may be setting-specific (e.g., a hospital with transmission) or health unit region-wide (e.g., transmission in more than one setting or significant community exposure).*
- *Any health unit region with a Health Care Facility SARS Category 1 or 2 hospital will be at Response Level 3 or above.*
- *Any health unit region with a Health Care Facility SARS Category 3 hospital will be at Response Level 4, or above.*
- As health unit regions generally have more than one hospital, and occasionally, hospital corporations overlap health units, an individual hospital's category will not always align with the health unit regions Response Level. Refer to the Ontario SARS Response Levels Paradigm below for how the regional levels, healthcare facility SARS categories and other providers' precautions interact.

Ontario SARS Response Levels Paradigm

Regional SARS Response Level	SARS Health Care Facility Category	Surveillance within Health Care Facility of Patients and Staff	Screening Procedures	Acute Care Activities	Patient Transfer and Pre-Hospital Care Activities
0 No activity anywhere in the world.	**0** No active SARS cases. No unprotected exposures or transmission.	FRI surveillance using Screening Tool.	Self screening of staff, outpatients and visitors	Non-outbreak practices. Have non-outbreak and outbreak procedures prepared and in place.	Non-outbreak transfer process and non-outbreak practices.

Ontario SARS Response Levels Paradigm

Regional SARS Response Level	SARS Health Care Facility Category	Surveillance within Health Care Facility of Patients and Staff	Screening Procedures	Acute Care Activities	Patient Transfer and Pre-Hospital Care Activities
1 Activity elsewhere in world **2** No local cases but cases exist in other areas of Ontario or other nearby jurisdictions	**0** No active SARS cases. No unprotected exposures or transmission.	FRI surveillance using Screening Tool. Ensure ED and admitting are aware of affected areas in Ontario or other nearby jurisdictions.	Self screening of staff, outpatients and visitors. Post names of affected areas in Ontario or other nearby jurisdictions on signage.	Non-outbreak practices. Review information from MOHLTC and local health unit. Have preparatory meetings with local SARS management committee to ensure a state of readiness	Non-outbreak transfer process and non-outbreak practices. Base to review information from MOHLTC and local health unit including names of affected areas in Ontario or other nearby jurisdictions. Ensure paramedics receive in-service on procedures.

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3 Local cases without transmission in your region	**0** No active SARS cases. No unprotected exposures or transmission. **1** Active SARS cases. No unprotected exposures or transmission.	FRI surveillance using Screening Tool. Ensure ED and admitting are aware of affected facilities in your region and other regions in Ontario.	Self screening of staff, outpatients and visitors. Post names of affected facilities in your region and other regions in Ontario on signage.	Non-outbreak practices. Survey for any admitted patients who may have been transferred in from an affected facility. Inform all staff to declare to Occupational Health if they have worked at any of the affected facilities.	Non-outbreak transfer process and non-outbreak practices. Base to review information from MOHLTC and local health unit including names of affected areas in Ontario or other nearby jurisdictions. Ensure paramedics receive in-service on procedures.

Ontario SARS Response Levels Paradigm

Regional SARS Response Level	**SARS Health Care Facility Category**	**Surveillance within Health Care Facility of Patients and Staff**	**Screening Procedures**	**Acute Care Directive to Follow and** **Other actions**	**Patient Transfer and Pre-Hospital Care Directives to Follow**
3 Local cases without transmission in your region	**2** Active SARS cases, with unprotected exposures, but no transmission.	Intensive Hospital surveillance using SARS Risk Factor Screening Tool.	Self screening of staff, outpatients and visitors. Post names of affected facilities in your region and other regions in Ontario on signage.	Non-outbreak practices.	Non-outbreak practices. If associated with a SARS Category 2 or 3 hospital, then use outbreak practices.
	3 Active SARS cases, with transmission	This scenario is not possible by definition. When transmission has occurred within the hospital, then the entire region moves up to Level 4			

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4 Local cases with transmission in "defined" settings (i.e., for the sake of this application this means transmission in hospitals)	**0** No active SARS cases. No unprotected exposures or transmission **1** Active SARS cases. No unprotected exposures or transmission	FRI surveillance using Risk Factor Screening Tool with Outbreak Management Algorithm. Ensure ED and admitting are aware of affected facilities in your region and other regions in Ontario.	Active screening of staff, outpatients and visitors using the SARS Risk Factor Screening Tool. Staff self screen at home and do not come to work if they are ill.	Outbreak directive. Survey for any admitted patients who may have been transferred in from an affected facility. Inform all staff to declare to Occupational Health if they have worked at any of the affected facilities.	Outbreak transfer process and outbreak practices.

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Regional SARS Response Level	SARS Health Care Facility Category	Surveillance within Health Care Facility of Patients and Staff	Screening Procedures	Acute Care Activities	Patient Transfer and Pre-Hospital Care Activities
4 Local cases with transmission in "defined" settings (i.e., for the sake of this application this means transmission in hospitals)	**2** Active SARS cases, with unprotected exposures, but no transmission.	III surveillance.	Active screening of staff, outpatients and visitors using the SARS Risk Factor Screening Tool. Staff self screen at home and do not come to work if they are ill.	Follow Outbreak directive. Survey for any admitted patients who may have been transferred in from an affected facility. Inform all staff to declare to Occupational Health if they have worked at any of the affected facilities.	Outbreak transfer process and outbreak practices

Ontario SARS Response Levels Paradigm

Regional SARS Response Level	SARS Health Care Facility Category	Surveillance within Health Care Facility of Patients and Staff	Screening Procedures	Acute Care Directive to Activities	Patient Transfer and Pre-Hospital Care Activities
4 Local cases with transmission in "defined" settings (i.e., for the sake of this application this means transmission in hospitals)	**3** Active SARS cases, with unprotected exposures or transmission	III surveillance.	Active screening of staff, outpatients and visitors using the SARS Risk Factor Screening Tool. Staff self screen at home and do not come to work if ill.	Outbreak directive. Survey for any admitted patients who may have been transferred in from an affected facility. Inform all staff to declare to Occupational Health if they have worked at any of the affected facilities. Hospital may have some or all programs closed depending on individual circumstances as decided by MOHLTC, local health unit and hospital.	Outbreak transfer process and outbreak practices.

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Regional SARS Response Level	SARS Health Care Facility Category	Surveillance within Health Care Facility of Patients and Staff	Screening Procedures	Acute Care Directive to Activities	Patient Transfer and Pre-Hospital Care Activities
5 Limited community spread **6** Wide community spread	Respond as per Community SARS Response Level 4 or lower depending upon extent of SARS with or without transmission in healthcare facilities.				Outbreak transfer process and outbreak practices.

The healthcare facility SARS category is more likely than not to determine the regional SARS level above Response Level 2. It is possible that there might be local SARS cases in a region without cases in any or some regional hospitals. Only the hospitals with SARS cases will be designated as SARS Category 1 or higher.

Where a region is at Response Level 3 or higher due to community cases with or without transmission, all of the healthcare facilities and providers in that region should:

- maintain a high level of awareness of the local SARS epidemiology,
- communicate with the local health unit; and,
- have plans in place for managing their facility, clinic or practice if they see SARS patients or are designated a Hospital SARS Category 1 facility or higher.